

# Virginia Regulatory Town Hall

## Final Regulation Agency Background Document

<b>Agency Name:</b>	Virginia Department of Health
<b>VAC Chapter Number:</b>	12 VAC 5-585
<b>Regulation Title:</b>	Biosolids Use Regulations
<b>Action Title:</b>	Final Amendments
<b>Date:</b>	April 13, 2005

Please refer to the Administrative Process Act (§ 9-6.14:9.1 *et seq.* of the *Code of Virginia*) , Executive Order Twenty-Five (98), and the *Virginia Register Form, Style and Procedure Manual* for more information and other materials required to be submitted in the final regulatory action package.

### Summary

*Please provide a brief summary of the new regulation, amendments to an existing regulation, or the regulation being repealed. There is no need to state each provision or amendment, instead give a summary of the regulatory action. If applicable, generally describe the existing regulation. Do not restate the regulation or the purpose and intent of the regulation in the summary. Rather, alert the reader to all substantive matters or changes contained in the proposed new regulation, amendments to an existing regulation, or the regulation being repealed. Please briefly and generally summarize any substantive changes made since the proposed action was published*

Section 12 VAC 5-585-500 of the Biosolids Use Regulations is to be revised to provide for field storage as an alternative to routine storage. The use of smaller temporary storage sites located near land application operations has provided an alternative that minimizes the operational problems associated with larger routine storage facilities. Operation of routine storage facilities, such as the lagoon system once located at the Hanover Industrial Air Park, resulted in liquid management problems and odor concerns leading to the closure of that facility. Many local governments have adopted local ordinances that prevent the construction of new routine storage facilities. However, the approval of temporary storage for biosolids, in excess of that transported to a site during a single day operation and not land applied on that site that day, has required the issuance of variances to the Regulations (12 VAC 5-585-90). The issuance of such variances is time consuming and costly. Variances are a case-by-case response to a situation that could be more effectively and efficiently addressed by a consistent statewide requirement and policy.

## Changes Made Since the Proposed Stage

*Please detail any changes, other than strictly editorial changes, made to the text of the proposed regulation since its publication. Please provide citations of the sections of the proposed regulation that have been altered since the proposed stage and a statement of the purpose of each change.*

Changes made to the proposed amendments since they were published in the *Virginia Register*, Volume 21, Issue 8, December 27, 2004, include the following:

1. Increasing the required time period prior to placing a cover over the stored biosolids from 30 to 60 days to provide for operational flexibility. VDH has not observed any odor or runoff concerns when biosolids are temporarily stored uncovered for more than 30 days. When biosolids are covered they are likely to remain stored for the maximum allowable time period instead of being removed as soon as possible due to the added difficulty of handling and disposing of the plastic covers.
2. Revising the specification for plastic covers from 10 mil to 6 mil. The 6 mil plastic sheets are more readily available, easier to handle and will shed precipitation as well as 10 mil plastic.
3. Replacing the wording “generator or its agent” with the word “owner” to be consistent with the amendment wording and the Biosolids Use Regulations which provide for permits issued to land applicators as owners.
4. Revising the wording in the initial paragraph of 12 VAC 5-585-500 to include and describe field storage as a separate means of biosolids storage as described in the amendment to avoid any confusion with routine storage requirements.

## Statement of Final Agency Action

*Please provide a statement of the final action taken by the agency .including the date the action was taken, the name of the agency taking the action, and the title of the regulation.*

The State Board of Health adopted the proposed field storage amendments as final amendments at their April 4, 2005 meeting in Roanoke, Virginia.

## Basis

*Please identify the state and/or federal source of legal authority to promulgate the regulation. The discussion of this statutory authority should: 1) describe its scope and the extent to which it is mandatory or discretionary; and 2) include a brief statement relating the content of the statutory authority to the specific regulation. In addition, where applicable please describe the extent to which proposed changes exceed federal minimum requirements. Full citations of legal authority and web site addresses, if*

*available for locating the text of the cited authority, shall be provided. If the final text differs from that of the proposed, please state that the Office of the Attorney General has certified that the agency has the statutory authority to promulgate the final regulation and that it comports with applicable state and/or federal law*

The *Biosolids Use Regulations* (12 VAC 5-585) were adopted by the State Board of Health in 1995 pursuant to Section 32.1-164.5 of the *Code of Virginia*. The *Biosolids Use Regulations* (Regulations) were subsequently revised, effective on October 15, 1997, in accordance with the Virginia Administrative Process Act (APA). The State Board of Health adopted amendments providing for the collection of land application fees and the reimbursement of local monitoring expenses at its January 31, 2003 meeting. Those amendments became final in March 2003. The State Board of Health approved the submittal of a Notice of Intended Regulatory Action (NOIRA) for an amendment to the Regulations concerning field storage at its April 25, 2003 meeting. The draft amendment was presented to the State Board of Health at its October 24, 2003 meeting for its approval as a proposed amendment. The State Board of Health recommended that several revisions be made to the draft amendment, including providing a standard 500 foot buffer zone around the field storage site. Other recommendations included revisions to the draft seasonal storage requirements. The State Board of Health recommendations have been included in the proposed amendment.

## Purpose

*Please provide a statement explaining the need for the new or amended regulation. This statement must include the rationale or justification of the final regulatory action and detail the specific reasons it is essential to protect the health, safety or welfare of citizens. A statement of a general nature is not acceptable, particular rationales must be explicitly discussed. Please include a discussion of the goals of the proposal and the problems the proposal is intended to solve.*

The Regulations provide the means to protect public health from improper and unregulated disposal of sewage sludge. These amendments are to be designed to provide a consistent and uniform set of State requirements that will address a number of issues that Local Governments must routinely deal with. It is anticipated that the development of State requirements will eliminate the need to develop non-uniform local requirements in these areas of concern and prevent extended litigation, brought by permitted entities, concerning restrictive Local Government ordinances. These State requirements will protect public health by providing standards for storing biosolids on permitted land application sites. The field storage standards will serve as a basis for additional operational restrictions placed on land appliers by the Virginia Department of Health to further protect the neighbors and public from any adverse impacts of land application operations. The use of smaller field storage sites will greatly reduce the need to use the larger temporary storage facilities that have been approved to date through the variance procedure. Although this amendment to the Regulations will eliminate the need to process such variances, site specific comments from local government will continue to be solicited as is currently done in the processing of land application permits.

## Substance

*Please identify and explain the new substantive provisions, the substantive changes to existing sections, or both where appropriate. Please note that a more detailed discussion is required under the statement of the regulatory action's detail.*

The proposed amendment to the Regulations will involve the addition of a new section, (12 VAC 5-585-500 E) addressing field storage standards. The land applier may use field storage as an alternative to routine storage during periods of inclement weather, or when the site soils are frozen, or surface saturated. Field storage can be used during winter conditions when there is limited or no nutrient uptake following land application, or land application operations could result in either physical damage to the site soils, or alteration of the site surface, or otherwise increase the surface runoff of particulates. Only dewatered biosolids suitable for land application (Class A or B pathogen control) and established as having minimal odor can be placed into field storage. The quantity of stored biosolids at the storage site will be limited to the amount equivalent to the quantity that would provide the agronomic rate of application, in accordance with the provisions of the Regulations (12 VAC 5-585-510), for approved sites within or nearby the property on which the storage site is located. The stored biosolids will be sufficiently dewatered so as to be capable of maintaining a stacking height of at least 4 feet. The ability of the biosolids to stay consolidated during stockpiling is to be verified and documented by the operator of the treatment works producing the biosolids at the source.

Field Storage Areas are to be designed to furnish an impermeable storage surface capable of supporting heavy equipment and sloped to minimize accumulation of precipitation, or other methods of removing accumulated precipitation are to be provided. Management steps must be taken to assure that no ponding of water occurs in contact with biosolids. The stored biosolids shall maintain a sloping surface shape that minimized accumulation of precipitation on the stored biosolids. If biosolids are stored longer than a 14 day period an impervious liner under the stored biosolids, capable of supporting operational equipment will be required. If biosolids are stored longer than 60 days a waterproof covering over the stored biosolids may be required. These standards are designed to prevent contamination of any runoff from around the site. Minimum buffer distances around the storage site to points of access and sources of water are designed to ensure protection of public health. If environmental or public health concerns develop at the storage location, VDH will require that the biosolids be removed to another site and will remove the approval of the problem field storage site.

## Issues

*Please provide a statement identifying the issues associated with the final regulatory action. The term "issues" means: 1) the advantages and disadvantages to the public of implementing the new provisions; 2) the advantages and disadvantages to the agency or the Commonwealth; and 3) other pertinent matters of interest to the regulated community, government officials, and the public. If there are no disadvantages to the public or the Commonwealth, please include a sentence to that effect.*

The Biosolids Use Regulations Advisory Committee has assisted the Virginia Department of Health (VDH) in developing the proposed language. The proposed amendment reflects the

recommendations from a majority of committee members. However, several committee members disapproved of the proposed language due to concerns that the field storage sites will not be properly managed. However, the temporary storage sites approved through the variance process to date have not been designed to meet the more strict standards now being proposed and their operation has not resulted in either actual public health effects, or water quality standards violations. Although the majority of the Advisory Committee members were in favor of the draft revision language, several members of the committee requested that more stringent requirements be included and stated that they objected to the field storage amendment without additional restrictions for site management practices limiting biosolids applications in winter months on sites that did have sufficient vegetation established.

DCR has expressed concern that the proposed regulatory action is occurring without simultaneous changes addressing the timing of biosolids land application. Inappropriate seasonal application of biosolids increases both the risk of nitrogen leaching into ground waters and risk of phosphorus levels in runoff from application sites. DCR is concerned that the present practice of allowing land application during the fall and winter on sites without growing crops does not adequately protect ground water quality and believes that seasonal restriction should be placed on the land application of biosolids. Moreover, since one of the primary reasons in providing for storage is to allow land application to occur only during periods when weather and soil conditions are appropriate, DCR believes that any changes to the field storage provision should go hand-in-hand with seasonal restrictions on land application. However, changes relating to seasonal restrictions on land application of biosolids are now to be included in a separate regulatory action involving management practices restrictions. The proposed regulation, even without seasonal restrictions on land application, is still likely to have a beneficial impact in terms of preventing the inappropriate land application of biosolids.

Public comments received by VDH from local governments indicate that some are against state approval of temporary field storage sites. They believe that local governments should have a greater say in the process due to the health and environmental concerns associated with the biosolids and they believe that the proposed changes would allow applicators to store biosolids at temporary field storage sites without justifying the need for field storage and without notifying VDH about the site. However, the proposed regulation specifies the circumstances under which biosolids may be put in to field storage, the length of time and conditions under which biosolids may be stored, the types of biosolids that can be placed in to field storage, best management practices and design requirements for field storage sites, operational requirements for field storage sites, record-keeping and reporting requirements, pre-approval, notification, and public participation requirements for all field storage sites, and the conditions under which approval for a field storage site may be denied or revoked. Also, the proposed regulation establishes restrictions on the type, quantity, and length of time biosolids can be stored at temporary field storage sites. Thus, to the extent that allowing for temporary storage prevents inappropriate land application and reduces the dependence on large routine storage facilities, the proposed change is likely to produce environmental benefits.

Concerns were also raised by a BURAC member about the lack of compliance with the proposed standards and the enforcement deficiencies in the proposed regulation (especially with regard to phosphorous content of biosolids). It was the opinion that until these deficiencies were removed,

protections currently afforded by local governments must not be stripped away. Local governments are notified of variance applications and are requested to provide specific reasons if they choose to request a denial of the variance. In the absence of any site-specific local concerns, VDH generally approves the variance as long as the site meets the specified standards (as was the case with the temporary storage site located on the Lanier Farm in Goochland County). The proposed regulation will continue to provide for local government input, requiring local governments to be notified of all proposed temporary field storage sites and allowing them a 30-day comment period. Moreover, the use of local monitors working with VDH staff should ensure that local government concerns are properly considered prior to the approval of a field storage site.

The advantage of adopting the requested amendments is that the credibility of this controversial state permit program will be enhanced. By establishing reasonable requirements for field storage and land application operations, the most economical and most beneficial means of sludge management will continue to be available to the owners of sewage treatment works, who are primarily metropolitan governments.

**Public Comment**

*Please summarize all public comment received during the public comment period and provide the agency response. If no public comment was received, please include a statement indicating that fact.*

A Notice of the public comment period for the proposed amendments was forwarded to the State Registrar of Regulations and published in the *Virginia Register* on December 27, 2004. The 60 day public comment period ended on February 28, 2005. Three public hearings were scheduled and held. The first hearing was on February 1, 2005, in the Town of Amelia Court House, the second hearing was on February 2, 2005, in the Town of Tappahannock and the third hearing was on February 3, 2005 in the Town of Culpeper. The summary of public comments received and the agency response is as follows:

SUMMARY OF COMMENT	AGENCY RESPONSE
<p>The Department of Planning and Budget (DPB) Economic Impact Analysis (EIA) Statement was published with the proposed amendments in the <i>Virginia Register</i> Volume 21, Issue 8, December 27, 2004.</p>	<p>The DPB analysis was directed to the potential fiscal impacts on the owners of sewage treatment works and on the Biosolids Contractors and land appliers that may be incurred upon adoption of the proposed amendments. However, DPB also considered the potential environmental and public health impacts may occur upon adoption of the proposed amendments. VDH concurs substantially with the conclusions drawn and the analysis contained in the EIA Statement. .</p>
<p>Rebecca Draper, Director of Public Works for Hanover County, submitted a letter reasserting the position of the Hanover County Board of Supervisors opposing the</p>	<p>VDH believes that the number of field storage sites will be much lower than the County has anticipated and the projected problems with monitoring the field storage sites will not develop. The siting and operation standards for field storage sites as required in the amendment will prevent runoff and</p>

SUMMARY OF COMMENT	AGENCY RESPONSE
<p>field storage amendment due to anticipated problems with monitoring numerous field storage sites and problems with runoff and odors.</p>	<p>odor problems from developing. If such problems were to occur then the site would be closed and no longer used.</p>
<p>Susan Trumbo of Recyc Systems, Inc. submitted a letter in support of the field storage amendment. However, Ms. Trumbo requested that revisions be made to the amendment language as follows;</p> <p>1. That stored biosolids not be covered until 60 days have passed after placement in storage and that the specification for plastic covers be equivalent to 6 mil to provide for more practical operation of field storage.</p> <p>2. That the terms, generator or its agent, be replaced with the term, owner, to provide consistent terminology within the amendment.</p>	<p>VDH has no objection to revising the proposed language as recommended, as problems with runoff from accumulated precipitation and odor development have not been observed for uncovered biosolids stored longer than 30 days at temporary storage sites approved through the variance procedure. In addition the more readily available 6 mil plastic coverings will adequately shed precipitation. The revisions would be as follows in brackets:</p> <p>1. “... <u>If biosolids are to be stored for more than [30 60] days, a cover over the biosolids equivalent or better to that provided by a [40 6] mil plastic material, shall be maintained...</u>”.</p> <p>2. “...<u>Biosolids stockpiles are to be checked by the [generator, or its agent, owner] at least every 14 days...</u>”.</p>
<p>Sharon Nicklas with the Hampton Roads Sanitation District (HRSD) submitted an e-mail commenting on the minimum buffer set-back distance and the requirement for Fecal Coliform monitoring of biosolids stored longer than 45 days. Ms Nicklas stated, “based on actual evidence observed by VDH regarding field storage sites, HRSD recommends that additional fecal coliform monitoring be deleted and the minimum buffer distances be adjusted.”</p>	<p>VDH does not recommend decreasing the Board of Health requested 500 foot buffer distance. The amendment provides that the State Health Commissioner can reduce the 500-foot set-back to 250 feet to adjacent property, upon the written consent of that owner. As HRSD states, the field storage sites will be selected to be as remote as possible, such that the 500 foot set-back should not pose a concern.</p> <p>VDH does not recommend deleting the Fecal Coliform monitoring requirement as such tests on composite samples should produce useful information on the microbiological content of stored biosolids.</p>
<p>Approximately 50 people attended the public hearing in Amelia County and 17 indicated a desire to speak at the meeting. General comments received at the public hearing in Amelia County addressed possible environmental pollution and public health effects that primarily were</p>	<p>VDH believes that such concerns will be addressed by the amended Biosolids Use Regulations and the current permit program, along with the development of the local monitor program.</p>

SUMMARY OF COMMENT	AGENCY RESPONSE
concerns expressed about land application of biosolids.	
Jim Bennett a member of the Amelia County Board of Supervisors stated that his constituents were opposed to field storage. He inquired as to why biosolids were not covered until after 30 days of storage.	A cover over stored biosolids problems may help reduce runoff from accumulated precipitation directly in contact with biosolids and may help prevent odor development. However, such problems have not been observed for uncovered biosolids stored longer than 30 days at temporary storage sites currently approved through the variance procedure.
At the public hearing held in the Town of Tappahannock, Ray Thomas, a local farmer, Harrison Moody representing Recyc Systems, Inc. and Mary Powell, representing Nutri-Blend, Inc. spoke in support of the proposed amendment. Mr. Moody indicated that Recyc Systems would submit written comments. Ms. Powell stated that the amended language could be confused with certain routine storage requirements now contained in the Biosolids Use Regulations such as fencing around the storage site.	VDH agrees with Ms. Powell’s observation that field storage should be identified as a fourth storage option in Section 12 VAC 5-585-500 of the Biosolids Use Regulations as follows: “[ <del>Three</del> <u>Four</u> ] types of storage may be integrated into a complete sludge management plan including”.... [(iv) “ <u>field storage</u> ” involving the provision of storage of biosolids at a <u>land application site on pre-approved constructed areas in accordance with this section.</u> ] Susan Trumbo submitted the written comments for Recyc Systems as summarized here.
At the public hearing held in the town of Culpeper, Hunter Richardson representing Synagro Mid Atlantic, Inc., spoke in support of the proposed amendment.	

**Detail of Changes**

*Please detail any changes, other than strictly editorial changes, that are being proposed. Please detail new substantive provisions, all substantive changes to existing sections, or both where appropriate. This statement should provide a section-by-section description of changes implemented by the proposed regulatory action. Include citations to the specific sections of an existing regulation being amended and explain the differences that would be the effect of the changes.*

The proposed amendment to the Regulations will involve the addition of a new section, 12 VAC (5-585-500 E) addressing field storage standards as follows:

- A. The biosolids owner may use field storage as an alternative to routine storage during periods of inclement weather, or when the site soils are frozen, or surface saturated. Field storage may be used during winter conditions when there is limited or no nutrient uptake, or land

application operations could physically alter the site surface or otherwise increase surface runoff of particulates. Only dewatered biosolids suitable for land application (Class A or B pathogen control) and established as having minimal odor [e.g. pH of 11 or more, or digested with a volatile solids level of 60 percent or less or other method approved by the Division of Wastewater Engineering (DWE)] shall be placed into field storage.

- B. Field storage operations shall not result in water quality, public health, or public nuisance problems. If field storage is used, the following requirements and Best Management Practices shall be adhered to:
1. All field storage locations and biosolids sources must be pre-approved by DWE. Field storage locations shall be as remote as practicable and located only in areas identified as having no flooding potential as identified by the County Soil Survey. Sites selected for field storage shall not be located on excessively moist or wetland soils where very low infiltration rates regularly lead to standing water or excessive runoff after storm events, such as Hydrologic Group D soils as indicated by the County Soil Survey. Stockpiles shall not be located on soils with extremely high hydraulic conductivity (such as gravel) resulting in excessive infiltration rates. The design and operation of the field storage site shall be adequately described and approved in accordance with the *Biosolids Use Regulations (Regulations)* (12 VAC 5-585-500 and 620).
  2. The local government shall be notified in advance of all proposed field storage locations and provided an opportunity to comment on the proposed site. The Commissioner may consider all comments on the proposed location and deny or revoke approval of any site if it becomes problematic due to odor, health, or water quality issues, in accordance with the provisions of the *Regulations* (12 VAC 5-585-70). Adequate daily records of biosolids quantities stored shall be maintained and reported monthly in accordance with the provisions of the *Regulations*.
  3. The quantity of stored biosolids at the storage site shall be limited to the amount equivalent to the quantity that would provide the agronomic rate of application, in accordance with the provisions of the *Regulations* (12 VAC 5-585-510), for approved sites within or nearby to the property on which the storage site is located. The stored biosolids shall be sufficiently dewatered so as to be capable of maintaining a stacking height of at least 4 feet. The ability of the biosolids to stay consolidated during stockpiling is to be verified and documented by the operator of the treatment works producing the biosolids at the source. This consolidation property is to be rechecked at the storage location if the biosolids contain property is to be rechecked at the storage location if the biosolids contain polymers that may be altered during storage such that the biosolids bound water is released. Biosolids may be blended with thickened biosolids at the source treatment facility if they do not have the proper consistency.

4. Field storage areas are to be designed to minimize accumulation of precipitation, or methods of removing accumulated precipitation are to be provided. Management steps must be taken to assure that no ponding of water occurs in contact with biosolids. The stored biosolids shall maintain a sloping surface shape that minimizes accumulation of precipitation on the stored biosolids.
5. The design of field storage sites shall meet the following requirements:
  - a. The distance to seasonal high water table shall be equal to or more than 36 inches, unless a liner with a minimum permeability of  $10^{-6}$  cm./sec and of sufficient strength to support operational equipment and approved by DWE is installed.
  - b. The distance to bedrock shall be equal to or greater than 40 inches unless a liner with a minimum permeability of  $10^{-6}$  cm./sec and of sufficient strength to support operational equipment and approved by the DWE is installed.
  - c. In karst topography, DWE may require additional design measures.
  - d. If the average site slope is greater than 6%, adequate surface water diversion methods must be provided and maintained.
  - e. The minimum buffer distances to property lines, occupied residences, and potable wells will be 500 feet. The Commissioner may grant a buffer reduction of up to 250 feet if the affected party agrees to the reduction in writing and the agreement is notarized and submitted to DWE. The minimum distance to surface waters that are flowing in a distinct channel shall be 500 feet.
6. Seasonal restrictions on storage time shall be established in accordance with the design of the field storage site. Biosolids may be stored on an approved field storage site for up to 14 days. If biosolids are stored on an approved field storage site for more than 14 days, a liner base under the stored biosolids shall be maintained during the storage time. The liner base shall be impervious and of sufficient strength to support operational equipment as approved by DWE. If biosolids are to be stored for more than 60 days, a cover over the biosolids equivalent or better to that provided by a 6 mil plastic material, shall be maintained during the storage time. Biosolids stored during the months of April through October shall be removed for permitted use or disposal within 30 days of placement in storage. Biosolids stored during the months of November through March shall be removed for permitted use or disposal within 45 days of placement in storage unless covered. Covered biosolids, stored during the months of November through March, must be removed for permitted use or disposal within 120 days of placement in storage.
7. Operation of the field storage site shall meet the following requirements:

- a. Biosolids must be removed from the storage site within 48 hours if objectionable odors related to the stored biosolids are verified by DWE at any occupied residence on surrounding property.
- b. Biosolids placed into covered storage are to be of a sufficiently cool temperature to allow placement of covering that will not result in safety or health concerns from a build up of heat, ammonia, or other gases or odors. Only biosolids with a minimum potential for heat build-up, such as stabilized compost, are to be placed in covered storage as incompletely stabilized compost can reheat to the point of catching fire.
- c. Biosolids stockpiles are to be checked by the owner at least every 14 days and after severe precipitation events to ensure that runoff controls are in good working order. Any observed excessive slumping, erosion or movement of biosolids is to be corrected within 24 hours. Any ponding or excessive odor at the site is to be corrected. Appropriate documentation of biosolids stockpile field checks shall be submitted with monthly reports.
- d. Biosolids stored for greater than 45 days shall be re-tested prior to land application for fecal coliform, TKN, and  $\text{NH}_3 - \text{N}$ .
- e. Following storage without liners, the residual biosolids remaining on the soil should be scraped and removed, the soil at the site shall be tilled to break up compaction, and the site should be cropped to take up nutrients.
- f. DWE may specify further restrictions on field storage at any time it deems necessary.